

FCC MAIL SECTION

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Before the  
Federal Communications Commission  
Washington, D.C. 20554

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In the Matter of

911 Call Processing Modes

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WT Docket No. 99-328

**ORDER****Adopted:** February 10, 2000**Released:** February 11, 2000

By the Chief, Wireless Telecommunications Bureau:

**I. INTRODUCTION AND BACKGROUND**

1. In its *Second Report and Order* in the Wireless E911 Rulemaking, CC Docket No. 94-102,<sup>1</sup> the Commission adopted Section 22.921 of its rules, 47 C.F.R. § 22.921. To help improve 911 call completion, this rule requires new analog wireless handsets, and multimode handsets when operating in analog mode, to be able to complete 911 calls to either analog carrier in an area, regardless of the programming of the handset for non-911 calls. The rule takes effect on February 13, 2000.<sup>2</sup> Further, the Commission approved three proposed 911 call processing modes, while stating general principles for other acceptable modes and encouraging the development of further improvements in 911 call completion, including the extension of improved calling methods to digital services.<sup>3</sup> The Commission delegated authority to the Wireless Telecommunications Bureau (Bureau) to consider and approve, deny, or approve with modification new or revised 911 call processing modes.<sup>4</sup>

2. On December 17, 1999, Ericsson Inc. filed a letter with the Bureau requesting confirmation that Ericsson's call completion method for dual band, multi-mode phones which operate on cellular frequencies in the analog and digital (TDMA) modes as well as on PCS frequencies in the digital (TDMA) mode complies with the Commission's 911 policies.<sup>5</sup> Ericsson stated that its dual mode analog/TDMA digital phones comply with the stated goal of the *Second Report and Order* and its call completion methodology, a variation of the Automatic A/B Roaming-Intelligent Retry (A/B-IR) method conditionally approved by the Commission, is likely to result in a higher percentage of completed wireless 911 calls. As Ericsson describes it, if the handset already has service on a control channel (analog or digital), the handset will immediately initiate the call on that channel. If it does not, the

<sup>1</sup> Revision of the Commission's Rules To Ensure Compatibility With Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Second Report and Order, 14 FCC Rcd 10954 (1999). (*Second Report and Order*).

<sup>2</sup> *Id.* at 10992. See also Revision of the Commission's Rules To Ensure Compatibility With Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Third Memorandum Opinion and Order, FCC 00-7, released January 13, 2000 (*Third Memorandum Opinion and Order*) at paras. 5-8.

<sup>3</sup> *Second Report and Order*, 14 FCC Rcd at 10993.

<sup>4</sup> *Id.* at 10993, 10995.

<sup>5</sup> Letter from David C. Jatlow, Counsel to Ericsson, to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Dec. 17, 1999 (Ericsson Letter).

handset will search for a control channel, in a specific order: on the analog cellular 800 MHz "a" band; then the "b" band; then the customer defined band order list, allowing service on any control channel (analog or digital) that is found; then on all frequency bands in which the handset is capable of operating. Feedback is given to the user regarding call status during the emergency call and the handset will attempt to complete the call until the user manually ends the call attempt or power is lost.<sup>6</sup> Ericsson also asserted that its proposed method, while slightly different from a method recently proposed by Nokia, raised identical policy issues.<sup>7</sup>

3. In a Public Notice in this docket, the Bureau sought comment on this filing, in particular on whether Ericsson's proposed method is consistent with the Commission's rules and the principles set out by the Commission for 911 call processing modes.<sup>8</sup> Comments supporting the proposal were filed by AT&T and the Cellular Telecommunications Industry Association (CTIA). Nokia, Inc also filed in support of the proposal but sought clarification of some points. The Wireless Consumer's Alliance, Inc. (WCA) filed comments opposing the proposal, claiming that the Ericsson proposal attempts to use a call completion method that was previously rejected by the Commission, does not meet the requirements of the *Second Report and Order* (particularly the condition that handsets employing the A/B-IR method be switched to the other analog carrier if the call is not successfully delivered to the landline carrier within 17 seconds), will result in "lock in" of calls, and will delay many 911 calls an unreasonably long time.<sup>9</sup> Subsequently, in response to staff requests, Ericsson submitted additional information on how its system works and a response to WCA's comments.<sup>10</sup> Ericsson also stated that it would need an additional four months to modify its handset software to include a call completion timer in the handset, in order to satisfy the 17 second call attempt condition.<sup>11</sup> In response to further staff inquiries, Ericsson modified this schedule, saying that the software was in the final stages of development but would require not more than 14 weeks to complete verification and implementation.<sup>12</sup> In support, it attached an Implementation Schedule showing the various steps to be completed, listing May 18 as the final finish date for these steps.<sup>13</sup>

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<sup>6</sup> *Id.*, attachment at 5.

<sup>7</sup> Ericsson Letter at 2, n.5. See *911 Call Processing Modes*, WT Docket No. 99-328, DA 00-132, released January 28, 2000 (*Nokia Order*).

<sup>8</sup> Public Notice, "Comments Sought on 911 Call Processing Method Proposed by Ericsson," DA 99-3012, released Dec. 28, 1999.

<sup>9</sup> WCA Comments in Opposition to the Ericsson Application (WCA Comments) at 8. See also, WCA Reply Comments.

<sup>10</sup> Letter from David C. Jatlow, Counsel to Ericsson, to Magalie Roman Salas, Secretary FCC, February 2, 2000 (Ericsson February 2 *Ex Parte* Letter).

<sup>11</sup> *Id.*, attachment at 7.

<sup>12</sup> Letter from Thomas Deitrich, Ericsson Vice President, Business Operations, to Magalie Roman Salas, Secretary FCC, February 7, 2000 (Ericsson February 7 *Ex Parte* Letter).

<sup>13</sup> *Id.*, attachment.

## II. DISCUSSION

4. As an initial matter, we decline Ericsson's request that we confirm that its 911 call completion method, as described, complies with the Commission's 911 policies. Ericsson has not demonstrated that its method is the same as one of those approved by the Commission or the Bureau. The Commission established general principles that any analog 911 call completion method must satisfy, principles that permit and encourage flexibility and innovation in the development of further improvements.<sup>14</sup> The Commission did not, however, permit manufacturers to use any method that they believe will satisfy these principles, but rather evaluated and approved three specific methodologies,<sup>15</sup> while delegating to the Bureau authority to consider new methods.<sup>16</sup> Under Section 22.291, manufacturers must employ, for handsets when operating in the analog mode, "any one or more of the 9-1-1 call system selection processes endorsed or approved by the Commission."<sup>17</sup> Ericsson's process differs in several respects from all of the three methods approved by the Commission as well as from the Nokia method approved by the Bureau recently, with conditions, on delegated authority.<sup>18</sup> For example, Ericsson's method employs a different order for attempting to complete calls with the available systems and channels than under either A/B-IR or the Nokia variation.

5. Most importantly, Ericsson's method, as originally described, clearly does not satisfy one of the conditions imposed by the Commission as part of its approval of A/B-IR, the condition that the handset spend no longer than 17 seconds initially attempting a 911 call with the preferred carrier. Ericsson claims that in practice its method will, in the vast majority of design cases, meet this requirement, because of the way various normal timing steps in the handset and the network operate.<sup>19</sup> However, the Commission expressly recognized in considering the A/B-IR method that 911 calls "should in almost all cases be completed in less than 15 seconds" but nonetheless imposed the additional 17 second condition on handset operation to address the relatively small fraction of calls not completed in that time and to "provide additional protection against any lock-in of calls, beyond 17 seconds, with the preferred carrier."<sup>20</sup> The Ericsson method, as originally proposed did not include any provision to satisfy this condition and limit initial 911 call attempts to 17 seconds or less. This omission plainly means that the Ericsson method is not the A/B-IR method that the Commission approved. Ericsson's February 2 and February 7 letters finally address this issue and indicate that the condition can be met.

6. Based on the record as thus developed, we approve the Ericsson 911 call processing method, subject to the same two conditions imposed by the Commission for A/B-IR and by the Bureau for Nokia's method. First, the handset must provide effective feedback to the caller when 911 call

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<sup>14</sup> *Second Report and Order*, 14 FCC Rcd. at 10965-67.

<sup>15</sup> These were: A/B-IR, Adequate/Strongest Signal, and Selective Retry. *See Second Report and Order*, 14 FCC Rcd. at 10967-88.

<sup>16</sup> *Id.* at 10989.

<sup>17</sup> 47 C.F.R. § 22.291.

<sup>18</sup> *See Nokia Order*.

<sup>19</sup> Ericsson Feb. 2 *Ex Parte* Letter, attachment at 6.

<sup>20</sup> *Second Report and Order*, 14 FCC Rcd at 10972.

processing is underway and is not finished, as Ericsson has proposed.<sup>21</sup> Second, Ericsson must also satisfy the 17 second condition.<sup>22</sup> As described, the Ericsson method operates in a manner similar to the A/B-IR and Nokia methods in searching for an available channel on both analog systems without regard to the handset's programming for non-911 calls. The difference in features such as the rank ordering of carriers and systems in the call completion queue and possible differences in handling of dropped calls<sup>23</sup> do not appear, on the current record, to cause material differences in performance under the Commission's principles. Once modified to comply with the same condition that apply to those methods, the Ericsson method should similarly satisfy the Commission's principles. In addition, extending the search algorithm when necessary to other digital systems should improve 911 call processing, as the Commission anticipated would be possible with the A/B-IR method and as we found to be the case with Nokia's method.<sup>24</sup> The current rapid deployment of digital systems and handsets should make the extension of the A/B-IR concept to digital of increasing benefit to 911 callers.

7. In addition, although we are troubled by Ericsson's failure to request an extension of time in which to come into compliance with 47 C.F.R. § 22.921 until just days before the February 13, 2000 deadline, we nonetheless conclude it is in the public interest to grant a waiver of the rule until May 18, 2000. We find that Ericsson's proposed method, subject to the conditions discussed above, should help achieve the Commission's policy goal of improving 911 completion, notably for the rapidly growing population of digital systems and multimode handsets. Allowing additional time is also consistent with the action we took in similar circumstances in response to Nokia's request.<sup>25</sup> Most importantly, we do not wish to disrupt handset production and competition at a time when demand for handsets continues to grow strongly. This could harm consumers through higher prices, confusion, and reduced availability of dual band, multimode handsets. The steps described by Ericsson do appear necessary to fully test and verify the performance of handset software. Inadequate testing, which could

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<sup>21</sup> This feedback may, for example, be in the form of an audible tone or message in addition to a visual status report on the handset's screen. In its comments, Nokia questions whether a statement by Ericsson implied that both audible and visual feedback are required to satisfy the Commission's condition. Nokia Comments at 2. In the *Second Report and Order*, para. 39, 14 FCC Rcd at 10971, the Commission required that the feedback be effective and cited both audible and visual feedback as an example, but did not require this specific form of feedback. The Commission also anticipated that the nature of the feedback information can be improved over time based on actual operation experience.

<sup>22</sup> In describing its discussions with Bureau staff, Ericsson states that it understands that the only implementation of this condition acceptable to the Commission is for the handset to exclusively control this time, rather than some other method such as network-based or combined control. Ericsson Feb. 2 *Ex Parte* letter, attachment at 7 and Feb. 7 *Ex Parte* letter. To avoid misunderstanding, we clarify that the Commission has not specified or sought to preclude any method to satisfy this condition.

<sup>23</sup> For example, when a 911 call is dropped, Nokia seeks to complete the call on the next available system, while Ericsson apparently rescans and seeks to find an acceptable channel. Ericsson Feb. 2 *Ex Parte* letter, attachment at 6. Although rescanning could theoretically require anywhere from 0.2 to 2.8 seconds, according to Ericsson it is typically completed in less than 1 second. While this may not be as rapid as simply moving to the next available system, as in the Nokia method, this is not a substantial delay and the ultimate result could be more beneficial in some cases, especially if the scan identifies a channel that is more acceptable than that on the next available system.

<sup>24</sup> *Nokia Order*, paras. 8-10.

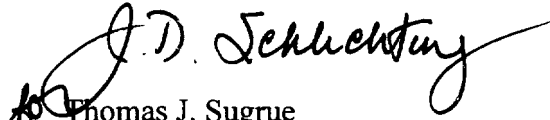
<sup>25</sup> *See Nokia Order*.

occur if testing is rushed, might fail to uncover problems that could undercut the performance of handsets, especially in emergency situations. Thus, to enable Ericsson to incorporate modifications into its dual band, multimode handsets that will render them fully compliant with 47 C.F.R. § 22.921 and the conditions set forth in this order, we believe that it is in the public interest to grant Ericsson's request for a limited extension of time.

8. Accordingly, IT IS ORDERED that the Ericsson method for 911 call processing IS APPROVED SUBJECT TO CONDITIONS as described in this Order.

9. IT IS FURTHER ORDERED that Ericsson's request for waiver of Section 22.921 of the Commission's Rules, until May 18, 2000, IS GRANTED to the extent indicated herein.

FEDERAL COMMUNICATIONS COMMISSION



for Thomas J. Sugrue  
Chief, Wireless Telecommunications Bureau